UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,270	11/28/2000	Kazunari Tonami	R2184.0089/P089	4897

24998 7590 12/29/2005

DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L Street, NW
Washington, DC 20037

EXAMINER	
LEE, TOMMY D	

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/722,270	TONAMI ET AL.	
	Examiner	Art Unit	
	Thomas D. Lee	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-95* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *9-11,25-27,43-46,55,61-64,69,74,80,85,90 and 95* is/are allowed.

6)☒ Claim(s) *1-8,12-16,18,20-24,29,31-34,36,38-42,48,50-54,56-60,75-79,81-84,86-89 and 91-94* is/are rejected.

7)☒ Claim(s) *17,19,28,30,35,37,47,49,65-68 and 70-73* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 1, 2005 has been entered.

Response to Amendment

2. This Office action is responsive to applicant's amendment filed October 3, 2005. Claims 1-95 are pending.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 15, 16, 18, 20-24, 29, 33, 34, 36, 38-42, 48, 50-54, 56-60, 75 and 91-94 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,160,921 (Marcu).

Regarding claims 15, 16, 18, 20-24 and 29, Marcu discloses an image processing method, comprising the steps of multi-level quantizing multi-tone image data by an error diffusion method (image data values can be quantized to multiple levels (column 3, lines 6-8; column 9, lines 66-67) by error diffusion (column 2, line 66- column 3, line 8; column 9, lines 59-67)); repressing occurrence of one or more specific

quantized levels for a specific level region of the image data relating to the one or more specific quantized levels (in highlight (range 230-255) and shadow (range 25-40) regions, isolated dots may be removed (column 4, lines 46-56)); and wherein re-quantization is performed, after the multi-level quantization is performed, in which, for a pixel having a specific quantization level, image data having an error added thereto according to the error diffusion method is compared with a threshold, and a final output value is determined (image data Px,y, having had an error added thereto from a prior pixel before the first quantization (column 8, lines 59-66), compared with highlight or shadow threshold values to determine final output value (column 8, lines 42-56)). Re-quantization is performed for the one or more specific quantized levels, occurrence of which is to be repressed (removal of isolated dots amounts to re-quantization to either the lowest or highest values, depending on whether the region is highlight or shadow). Occurrence of the one or more specific quantized levels is repressed for a high level region of the image data (isolated dots removed from highlight region (column 4, lines 46-56)). An occurrence rate of the one or more specific quantized levels, occurrence of which is to be repressed, is controlled based on the number of pixels quantized to quantized levels higher than 0, or to a specific quantized level, in a specific region in the periphery of a target pixel and the level of the image data of the target pixel (In shadow region, if no white dot located alone a road map, a white dot is placed at the current pixel; if white dot is detected, then the current pixel is set to a black value (column 9, lines 4-27). In highlight region, converse process is carried out (column 9, lines 28-35)). A degree of repressing occurrence of the one or more specific quantized levels is

changed according to a feature of the image (repression confined to shadow and highlight regions (column 8, lines 42-58)).

Regarding claims 33, 34, 36, 38-42, 48 and 50-54, Marcu discloses an image processing apparatus, comprising a first part multi-level quantizing multi-level input image data by an error diffusion method (image data values can be quantized to multiple levels (column 3, lines 6-8; column 9, lines 66-67) by error diffusion (column 2, line 66- column 3, line 8; column 9, lines 59-67)); a second part repressing occurrence of one or more specific quantized levels for a specific level region of the image data relating to the one or more specific quantized levels (in highlight (range 230-255) and shadow (range 25- 40) regions, isolated dots may be removed (column 4, lines 46-56)); and wherein re-quantization is performed, after the multi-level quantization is performed, in which, for a pixel having a specific quantization level, image data having an error added thereto according to the error diffusion method is compared with a threshold, and a final output value is determined (image data Px,y, having had an error added thereto from a prior pixel before the first quantization (column 8, lines 59-66), compared with highlight or shadow threshold values to determine final output value (column 8, lines 42-56)). Said second part performs re-quantization for the one or more specific quantized levels, occurrence of which is to be repressed (removal of isolated dots amounts to re-quantization to either the lowest or highest values, depending on whether the region is highlight or shadow). Said second part represses occurrence of the one nr more specific quantized levels for a high level region of the image data (isolated dots removed from highlight region (column 4, lines 46-56)). Said second part controls occurrence rates of

the one or more specific quantized levels, occurrence of which is to be repressed, based on the number of pixels quantized to quantized levels higher than 0, or to a specific quantized level, in a specific region in the periphery of a target pixel and the level of the image data of the target pixel (In shadow region, if no white dot located alone a road map, a white dot is placed at the current pixel; if white dot is detected, then the current pixel is set to a black value (column 9, lines 4-27). In highlight region, converse process is carried out (column 9, lines 28-35)). Said second part changes degrees of repressing occurrence of the one or more specific quantized levels according to a feature of the image (repression confined to shadow and highlight regions (column 8, lines 42-58)).

Regarding claims 56 and 57, Marcu discloses an image processing apparatus, comprising: a first part adding an error to input image data (column 8, lines 30-32); a second part multi-level quantizing the image data to which the error is already added by said first part, using a plurality of quantization thresholds (column 8, lines 36-42; column 2, line 66-column 3, line 8; column 9, lines 59-67); a third part re-quantizing the quantized data provided by said second part, to another quantized level, for one or more specific quantized levels other than the highest quantized level and quantized level 0, as the need arises, and outputting the thus-obtained data as an output image data (column 8, lines 42-56., column 9, lines 4-35); a fourth part obtaining the error to be added to the input image data, from the output image data and image data to which the error is already added by said first part, and providing the thus-obtained error to said first part (column 8, lines 57-61); and a fifth part detecting, from the output image data,

the number of pixels quantized to be higher than the quantized level 0 in a specific region in the periphery of a target pixel, and providing the thus-obtained number to said third part (column 9, lines 14-32), wherein said third part comprises a threshold, relating to each of said one or more specific quantized levels, determined based on the number provided by said fifth part, with the level of the image data to which the error is already added, and, thereby, determines whether re-quantization for said each of said one or more specific quantized levels is necessary, occurrence of each of said one or more specific quantized levels being repressed in a specific level region of the input image data relating to said each of said one or more specific quantized levels through the re-quantization by said third part (column 8, lines 44-56); and wherein re-quantization is performed, after the multi-level quantization is performed, in which, for a pixel having a specific quantization level, image data having an error added thereto according to the error diffusion method is compared with a threshold, and a final output value is determined (image data Px,y, having had an error added thereto from a prior pixel before the first quantization (column 8, lines 59-66), compared with highlight or shadow threshold values to determine final output value (column 8, lines 42-56)). Said third part determines that re-quantization is not necessary when the level of the input image data is out of said specific level region relating to each of said one or more specific quantized levels (column 8, lines 57-58).

Regarding claim 58, Marcu discloses an image processing apparatus, comprising: a first part adding an error to input image data (column 8, lines 30-32); a second part multi-level quantizing the image data to which the error is already added by

said first part, using a plurality of quantization thresholds (column 8, lines 36-42; column 2, line 66-column 3, line 8; column 9, lines 59-67); a third part re-quantizing the quantized data provided by said second part, to another quantized level, for one or more specific quantized levels other than the highest quantized level and quantized level 0, as the need arises, and outputting the thus-obtained data as an output image data (column 8, lines 42-56; column 9, lines 4-35); a fourth pad obtaining the error to be added to the input image data, from the output image data and image data to which the error is already added by said first part, and providing the thus-obtained error to said first part (column 8, lines 57-61); and a fifth part detecting, from the output image data, the number of pixels quantized to be higher than the quantized level 0 in a specific region in the periphery of a target pixel, and providing the thus-obtained number to said third part (column 9, lines 14-32), wherein said third part comprises a threshold, relating to each of said one or more specific quantized levels, determined based on the number provided by said fifth part and the level of the input image data, with the level of the image data to which the error is already added, and, thereby, determines whether re-quantization for said each of said one or more specific quantized levels is necessary, occurrence of each of said one or more specific quantized levels being repressed in a specific level region of the input image data relating to said each of said one or more specific quantized levels through the re-quantization by said third part (column 8, lines 44-56); and wherein re-quantization is performed, after the multi-level quantization is performed, in which, for a pixel having a specific quantization level, image data having an error added thereto according to the error diffusion method is compared with a

threshold, and a final output value is determined (image data Px,y, having had an error added thereto from a prior pixel before the first quantization (column 8, lines 59-66), compared with highlight or shadow threshold values to determine final output value (column 8, lines 42-56)).

Regarding claim 59, Marcu discloses an image processing apparatus, comprising: a first part adding an error to input image data (column 8, lines 30-32); a second part multi-level quantizing the image data to which the error is already added by said first part, using a plurality of quantization thresholds (column 8, lines 36-42; column 2, line 66-column 3, line 8; column 9, lines 59-67); a third part re-quantizing the quantized data provided by said second part, to another quantized level, for one or more specific quantized levels other than the highest quantized level and quantized level 0, as the need arises, and outputting the thus-obtained data as an output image data (column 8, lines 42-56; column 9, lines 4-35); a fourth part obtaining the error to be added to the input image data, from the output image data and image data to which the error is already added by said first part, and providing the thus-obtained error to said first part (column 8, lines 57-61); and a fifth part detecting, from the output image data, the number of pixels for each quantized level in a specific region in the periphery of a target pixel, and providing the thus-obtained number to said third part (column 9, lines 14-32), wherein said third part comprises a threshold, relating to each of said one or more specific quantized levels, determined based on the total number of pixels of each of said one or more specific quantized levels and one or more other quantized levels near to said each of the one or more specific quantized levels and the level of the input

image data, with the level of the image data to which the error is already added, and, thereby, determines whether re-quantization for said each of said one or more specific quantized levels is necessary, occurrence of each of said one or more specific quantized levels being repressed in a specific level region of the input image data relating to said each of said one or more specific quantized levels through the re-quantization by said third part (column 8, lines 44-56); and wherein re-quantization is performed, after the multi-level quantization is performed, in which, for a pixel having a specific quantization level, image data having an error added thereto according to the error diffusion method is compared with a threshold, and a final output value is determined (image data Px,y, having had an error added thereto from a prior pixel before the first quantization (column 8, lines 59-66), compared with highlight or shadow threshold values to determine final output value (column 8, lines 42-56)).

Regarding claim 60, Marcu discloses an image processing apparatus, comprising: a first part adding an error to input image data (column 8, lines 30-32); a second part multi-level quantizing the image data to which the error is already added by said first part, using a plurality of quantization thresholds (column 8, lines 36-42; column 2, line 66-column 3, line 8; column 9, lines 59-67); a third part re-quantizing the quantized data provided by said second part, into another quantized level, for one or more specific quantized levels, as the need arises, and outputting the thus-obtained data as an output image data (column 8, lines 42-56; column 9, lines 4-35); a fourth part obtaining the error to be added to the input image data, from the output image data and image data to which the error is already added by said first part, and providing the thus-

obtained error to said first part (column 8, lines 57-61); and a fifth part detecting, from the output image data, the number of pixels quantized to be higher than the quantized level 0 in a specific region in the periphery of a target pixel, and providing the thus-obtained number to said third pad (column 9, lines 14-32), wherein said third part has a signal indicating a feature of an image region to which the target pixel belongs input thereto from the outside, and comprises a threshold, relating to each of said one or more specific quantized levels, determined based on the total number of pixels of each of said one or more specific quantized levels, determined based on a parameter relating to said each of said one or more specific quantized levels determined according to the feature indicated by said signal, the number provided by said fifth part and the level of the input image data, with the level of the image data to which the error is already added, and, thereby, determines whether re-quantization for said each of said one or more specific quantized levels is necessary, occurrence of each of said one or more specific quantized levels being repressed in a degree according to said feature in a specific level region of the input image data relating to said each of said one or more specific quantized levels through the re-quantization by said third part (column 8, lines 44-56); and wherein re-quantization is performed, after the multi-level quantization is performed, in which, for a pixel having a specific quantization level, image data having an error added thereto according to the error diffusion method is compared with a threshold, and a final output value is determined (image data Px,y, having had an error added thereto from a prior pixel before the first quantization (column 8, lines 59-66),

compared with highlight or shadow threshold values to determine final output value (column 8, lines 42-56)).

Regarding claim 75, a sixth part generating said signal input to said third part is inherent in Marcu, for re-quantization in Marcu inherently requires at least an input of the quantized image data, image data of peripheral pixels, and threshold data for determining whether the quantized data needs to be re-quantized based on the quantization levels of the peripheral pixels.

Regarding claims 91-94, Marcu discloses a computer-readable recording medium storing therein a program for causing a computer to carry out the function of each part of the image processing apparatus as claimed in claims 56 and 58-60, respectively (as recited in Marcu's claims 19-26, a computer-readable recording medium is provided for causing a computer to execute the above steps).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-8, 12-14, 31, 32, 76-79, 81-84 and 86-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcu.

Regarding claim 1, Marcu discloses an image forming method, comprising the steps of multi-level quantizing a multi-tone image by an error diffusion method (image data values can be quantized to multiple levels, by error diffusion (column 2, line 66-column 3, line 8; column 9, lines 59-67)); and representing each pixel of the thus-quantized image having a quantized level higher than 0 using a dot (read Abstract),

wherein occurrence of dots is repressed in a specific shade region relating to the dots (in highlight (range 230-255) and shadow (range 25-40) regions, isolated dots may be removed (column 4, lines 46-56)); and wherein re-quantization is performed, after the multi-level quantization is performed, in which, for a pixel having a specific quantization level, image data having an error added thereto according to the error diffusion method is compared with a threshold, and a final output value is determined (image data Px,y, having had an error added thereto from a prior pixel before the first quantization (column 8, lines 59-66), compared with highlight or shadow threshold values to determine final output value (column 8, lines 42-56)).

In Marcu, the dots are not disclosed as becoming larger as the quantized level thereof is higher, or repression of dots having a specific size. However, it is well known in the art of printing that multi-level image data can be formed on a page in a number of ways, including varying the size of printed dots according to the quantization level of the image data, so that darker quantization levels are printed using larger-sized dots. Marcu has indicated that the image data output using the error diffusion method disclosed in the reference may be multi-level, and since printing variable-sized dots in order to represent varying quantization levels is generally known, it would have been obvious for one of ordinary skill in the art to modify the teaching of Marcu by providing a printer that prints dots of different sizes, so as to enhance the tonal resolution of the output image.

Regarding claims 2-7, repression of the occurrence of the smallest dots, or dots other than the largest dots, and basing control of an occurrence rate of the dots having

the specific size on the number of dots having the specific size in a specific region in the periphery of a target pixel and a shade level of the target pixel, would have been obvious in view of Marcu, where in highlight and shade regions, the appearance of a dot at a target pixel location is repressed if one or more dots appear along a road map in the vicinity of the target pixel location (column 9, lines 4-27).

Regarding claim 8, changing the degree of repressing occurrence of the dots having the specific size according to a feature of the image would have been obvious in view of Marcu (repression confined to shadow and highlight regions (column 8, lines 42-58)).

Regarding claims 12-14, performing repression of occurrence of the dots having the specific size for medium and dark shade regions of the image would have been obvious in view of Marcu (shade region defined in the range of 25-40 (column 4, lines 35-38; column 8, lines 47-49), repression performed in shade region (column 4, lines 46-56), which inherently includes medium and dark shade regions).

Regarding claims 31 and 32, Marcu discloses an image forming method comprising the steps of multi-level quantizing multi-tone image data by the image processing methods as claimed in claims 15 and 16 (note rejection of claims 15 and 16 above); and forming an image from the thus-multi-level-quantized image data using dots for pixels (read Abstract). As mentioned above regarding claim 1, while not disclosed in Marcu, it is well known in the art of printing that multi-level image data can be formed on a page in a number of ways, including varying the size of printed dots according to the quantization level of the image data, so that darker quantization levels are printed using

larger-sized dots. Marcu has indicated that the image data output using the error diffusion method disclosed in the reference may be multi-level, and since printing variable-sized dots in order to represent varying quantization levels is generally known, it would have been obvious for one of ordinary skill in the art to modify the teaching of Marcu by providing a printer that prints dots of different sizes, so as to enhance the tonal resolution of the output image.

Regarding claims 76-79, the apparatus of Marcu further comprises a sixth part which forms an image from the image output data (column 3, lines 6-9). Marcu does not use dots for pixels which dots are larger as the pixels have higher quantized levels. However, as mentioned above with respect to claim 1, it is well known in the art of printing that multi-level image data can be formed on a page in a number of ways, including varying the size of printed dots according to the quantization level of the image data, so that darker quantization levels are printed using larger-sized dots. Marcu has indicated that the image data output using the error diffusion method disclosed in the reference may be multi-level, and since printing variable-sized dots in order to represent varying quantization levels is generally known, it would have been obvious for one of ordinary skill in the ad to modify the teaching of Marcu by providing a printer that prints dots of different sizes, so as to enhance the tonal resolution of the output image.

Regarding claims 81-84, Marcu does not disclose a sixth part generating the input image by optically scanning an original, as Marcu is mainly concerned with the processing of image data already obtained. However, the use of an optical scanner for scanning image data to be processed is well known in the art and commonly used for

capturing image data from a document. It would have been obvious for one of ordinary skill in the art to provide an optical scanner for scanning documents to be processed in the teaching of Marcu, because of the widespread use of such a device.

Regarding claims 86-89, these claims recite the optical scanning and forming of an image as recited in above-rejected claims 76-79 and 81-84, and are thus rejected for the reasons set forth above.

Allowable Subject Matter

7. Claims 9-11, 25-27, 43-46, 55, 61-64, 69, 74, 80, 85, 90 and 95 are allowed.

8. Claims 17, 19, 28, 30, 35, 37, 47, 49, 65-68 and 70-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: No prior ad has been found to disclose or suggest repression of occurrence of dots of a specific size with respect to picture or non-edge regions, as recited in claims 9-11, 25-27, 43-45 and 61-63; or changing degrees of repression according to a specific output mode, as recited in claims 46 and 64; or repressing the occurrence of one or more specific quantized levels for a medium level region of the image data, as recited in claims 17, 35 and 65-68; or for medium and high level regions of the image data, as recited in claims 19, 37 and 70-73. Claim 55 depends from claim 46; claims 69, 74, 80, 85, 90 and 95 depend from claim 64. Claims 28 and 47 depend from claims 17 and 35, respectively; and claims 30 and 49 depend from claims 19 and 37, respectively.

Response to Arguments

10. Applicant's arguments, see pages 41-42 of the prior amendment, filed October 3, 2005, with respect to the rejection of claims 1-8, 12-24, 28-42, 47-54, 56-60, 65-68, 70-73, 75-79, 81-84, 86-89 and 91-94 under 35 U.S.C. 112, first paragraph, and claims 15-24, 28-42 and 47-54 under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. The prior rejection of these claims has been withdrawn.

11. Applicant's arguments filed in response to the prior rejection of claims 15, 16, 18, 20-24, 29, 33, 34, 36, 38-42, 48, 50-54, 56-60, 75 and 91-94 under 35 U.S.C. 102(e); and claims 1-8, 12-14, 31, 32, 76-79, 81-84 and 86-89 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive. Applicant asserts that the cited prior art does not disclose a re-quantization step. However, as mentioned in the prior Office action, removal of isolated dots from highlight and shadow regions, as disclosed in Marcu (column 4, lines 46-56), amounts to re-quantization to either lowest or highest values.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (571) 272-7436. The examiner can normally be reached on Monday-Friday, 7:30-5:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas D. Lee
Primary Examiner
Art Unit 2624

tdl
December 22, 2005